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# Food Security in Central America

## An Update

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# Food Security in Central America
## An Update

This report is the fifth in a series of reports that USDA's Economic Research Service produces under the Hurricane Mitch Reconstruction project on food security. The four previous reports focused on the four individual countries most affected by the hurricane—El Salvador, Guatemala, Honduras, and Nicaragua. This report focuses on Honduras and Nicaragua—the two countries most hurt by the region's recent drought—and examines the implications of production shortfalls on food security.

Food security in Central America is already precarious due to low income levels, residual effects of 1998's Hurricane Mitch, dry weather during last year's growing season, and low coffee prices. This year's drought only serves to aggravate the situation. The rainy season began with more than adequate rains in May, but dry weather ensued in June and July. Erratic rainfall in July and August resulted in crop losses. Grains account for roughly half of the diet in these countries. Because of financial constraints to imports, domestic grain production, which accounts for about 50-60 percent of grain consumption, is key to food security.

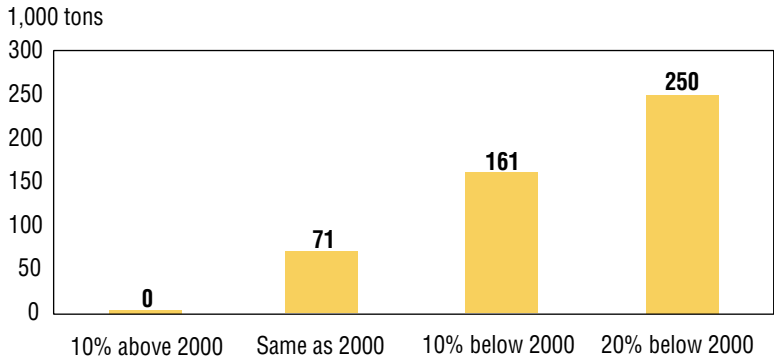
In Honduras, grain output for 2001 is estimated at 487,000 tons—down around 18.5 percent from the 1998-2000 average. Nicaragua is suffering the second consecutive year of below-average harvests; its output for 2001 is estimated at 441,000 tons, 12.5 percent lower than the pre-drought 3-year average.

### Grain Shortfall in Honduras Severe

In 2001, grain output in Honduras is expected to fall nearly 20 percent, commensurate with our bleakest production scenario (see box, p. 5). In this case, the status quo food gap is estimated at about 250,000 tons. This number far exceeds the recent food aid receipts of about 100,000 tons per year. Therefore, if food aid shipments for 2001 remain at recent levels, Honduras must draw down stocks and/or raise commercial imports in order to prevent a decline in per capita consumption.

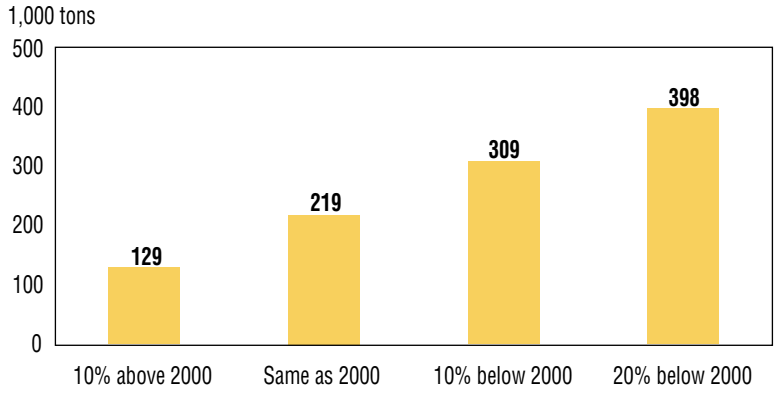


**Honduras: Status quo food gap under 2001 production scenarios**




Commercial imports are estimated at roughly 400,000 tons.

**Honduras: Nutritional food gap under 2001 production scenarios**




Commercial imports are estimated at roughly 400,000 tons.

The situation with respect to nutritional requirements is much worse. With a 20-percent decline in grain production, the nutritional food gap is estimated at nearly 400,000 tons. These aggregate food gap projections do not take into account food insecurity due to uneven food distribution within a country.

Widely divergent incomes exacerbate the impact of a 20-percent drop in grain production on food security. The ratio of consumption to nutritional requirements falls below one in all income groups (see table). This means that diets—across the board—are nutritionally inadequate in the face of such a dramatic drop in production. However, there will be a segment

**Honduras: Ratio of consumption to nutritional requirements, 2001**

| Production scenarios relative to 2000 levels | Income quintiles | | | | |
|---|---|---|---|---|---|
| | Lowest | 2nd | 3rd | 4th | Highest |
| 10% above | 0.69 | 0.77 | 0.84 | 0.91 | 1.08 |
| Same | 0.64 | 0.72 | 0.78 | 0.85 | 1.01 |
| 10% below | 0.59 | 0.67 | 0.72 | 0.79 | 0.93 |
| 20% below | 0.55 | 0.62 | 0.67 | 0.73 | 0.86 |

Note: A ratio above 1.0 indicates that consumption exceeds the nutritional target of 2,100 calories per day. A ratio below 1.0 indicates that consumption falls short of the nutritional target.

of the population in the highest income group that will be able to purchase a nutritionally adequate food basket. Consumption in the lowest income group is estimated to equal only 55 percent of nutritional requirements. If 2001 production stays the same as the previous year, consumption in only the highest income group will exceed—although barely—the minimum nutritional target.

## Nicaragua May Get By With Customary Food Aid

As a result of the drought, Nicaragua's grain production is estimated to be only slightly higher than last year's below-average crop. If grain output is assumed to be 10 percent above the 2000 level (see box for scenarios), the status quo food gap for 2001 is estimated at more than 100,000 tons. If output is assumed to be as low as last year's, this gap rises to 173,000 tons. These gaps are in the range of recent food aid receipts.

If food aid shipments for 2001 remain at recent levels, 1998-2000 per capita consumption levels could be maintained. However, the nutritional food gaps exceed recent food aid receipts. Even under the scenario whereby production exceeds last year's level by 10 percent, the nutritional food gap for 2001 is estimated at about 190,000 tons; if production remains at the 2000 level, the nutritional food gap jumps to nearly 250,000 tons.

By income group, the consumption situation resembles that of Honduras. Assuming 2001 grain production at 10 percent above that of 2000, only the top income group—or 20 percent of the population—will consume above the nutritional target of 2,100 calories per day. Consumption in the lowest income group will equal only 64 percent of the target.



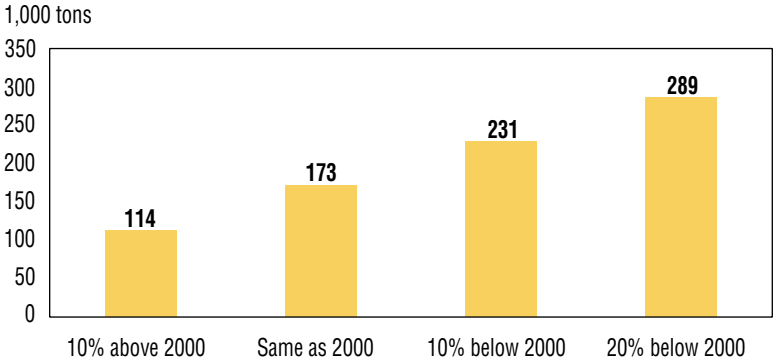
## Measuring Food Security

USDA's Economic Research Service measures food security by calculating food gaps. Each of these food gap measures focuses on a different aspect of food security. The ***status quo food gap*** captures deterioration in food supply. It examines how much food is needed to keep per capita consumption at the base (1998-2000) level. The ***nutritional food gap*** measures chronic national food insecurity—i.e., how much food is needed to allow each citizen, on average, to consume nutritional requirements.

Using the ERS food security model, we have looked at the implications for food security under different production scenarios. Production levels for 2001 were estimated in relation to 2000 production levels as follows:

- 10 percent above 2000 output
- Same level as 2000
- 10 percent below
- 20 percent below.

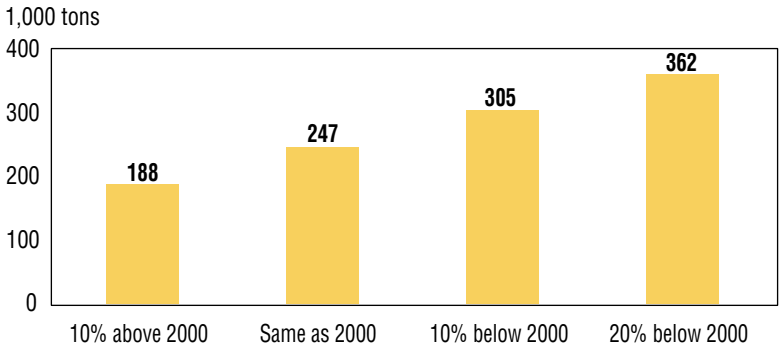
**Nicaragua: Status quo food gaps under 2001 production scenarios**




Commercial imports are estimated at roughly 400,000 tons.

These results indicate the extreme vulnerability of these populations. Even if grain production can overcome drought and achieve recent levels, many people in Honduras and Nicaragua remain at risk with respect to food security.

### Nicaragua: Nutritional food gaps under 2001 production scenarios




Commercial imports are estimated at roughly 400,000 tons.

### Nicaragua: Ratio of consumption to nutritional requirements, 2001

| Production scenarios relative to 2000 levels | Income quintiles Lowest | 2nd | 3rd | 4th | Highest |
|---|---|---|---|---|---|
| 10% above | 0.64 | 0.71 | 0.77 | 0.83 | 1.00 |
| Same | 0.60 | 0.67 | 0.72 | 0.78 | 0.93 |
| 10% below | 0.56 | 0.63 | 0.68 | 0.73 | 0.87 |
| 20% below | 0.52 | 0.58 | 0.63 | 0.68 | 0.81 |

Note: A ratio above 1.0 indicates that consumption exceeds the nutritional target of 2,100 calories per day. A ratio below 1.0 indicates that consumption falls short of the nutritional target.

## Breaking the Cycle

In the face of production shortfalls, one option (other than increased food aid) to achieve food security is to raise commercial imports. However, these imports can only be financed through growth in foreign exchange earnings. The average net external financial flows to Honduras and Nicaragua declined during the last decade, with external credit and foreign assistance contributing to roughly 10-15 percent of the total annual value of imports. The debt burden continues to dampen growth prospects, and the performance of exports will be the key determinant of food imports.

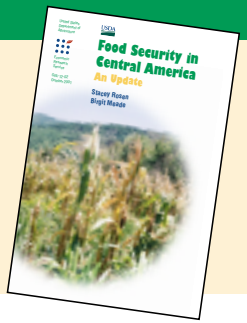
Agricultural products comprise a significant share of exports. For example, in Honduras, coffee and bananas account for more than a third of export earnings. Reliance on just a few agricultural exports has resulted in high earnings variation due to inconsistent weather and/or demand. Moreover, price prospects for these commodities determine future export trends and the ability of these countries to import commercially, and those prospects are dim. According to the World Bank, nominal prices of beverage products are projected to decline more than 3 percent per year through 2007.

Diversification appears to be the key to maintaining future growth in export earnings. Nicaragua's export value nearly tripled between 1992 and 1997 due to a rapid rise in exports of manufactured goods that broke the historical dependence on coffee. However, prices of manufactured goods are projected to rise less than 2 percent per year through 2007.

Central American countries can also combat food insecurity by pursuing economic integration as a base for their development strategy. The small size and proximity of the countries makes the integration more mutually beneficial, reducing costs of investment in infrastructure. And the economies of scale inherent in a bigger internal market will attract more investment.

*Cover photo: Corn and sorghum, Honduras. Photo courtesy Robert Tetrault, USDA/FAS.*


This publication is a supplement to the annual *Food Security Assessment* published as part of ERS' Situation and Outlook Series of International Agriculture and Trade Reports. The annual assessment covers 67 low-income, developing countries. This is one in a series of quarterly publications produced as part of the food security program under the Hurricane Reconstruction activities of the U.S. Department of Agriculture.

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